Mathematics Formulas – Grade 8

Shape	Area	Circumference
Circle	$A = \pi r^2$	$C = \pi d = 2\pi r$
Triangle	$A = \frac{1}{2}bh$	**Perimeter**
Rectangle	$A = lw$	$P = 2l + 2w$
Trapezoid	$A = \frac{1}{2}h(b_1+b_2)$	
Parallelogram	$A = bh$	

Key	
b = base	w = width
h = height	d = diameter
l = length	r = radius
Use 3.14 for π	

3-dimensional Shape	Volume	Total Surface Area
Rectangular Prism	$V = lwh$	$SA = 2(lw) + 2(hw) + 2(lh)$

Formulas	
Distance, rate, time formula d = distance, r = rate, t = time $d = rt$	Simple interest p = principal, r = rate, t = time $I = prt$
Slope-intercept form of an equation of a line, where m is the slope of the line and b is the y-intercept $y = mx + b$	

Conversions	
1 yard (yd) = 3 feet (ft) = 36 inches (in.)	1 meter (m) = 100 centimeters (cm)
1 mile (mi) = 1,760 yards (yd) = 5,280 feet (ft)	1 meter (m) = 1,000 millimeters (mm)
	1 kilometer (km) = 1,000 meters (m)
1 cup = 8 fluid ounces (fl oz)	
1 pint (pt) = 2 cups	1 liter (l) = 1,000 milliliters (ml)
1 quart (qt) = 2 pints (pt)	1 liter (l) = 1,000 cubic centimeters (cu. cm)
1 gallon (gal.) = 4 quarts (qt)	
	1 gram (g) = 1,000 milligrams (mg)
1 pound (lb) = 16 ounces (oz)	1 kilogram (kg) = 1,000 grams (g)
1 ton = 2,000 pounds (lb)	